UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

July 11, 2014

David Copeland
Acting President and Chief Executive Officer
Florence Copper, Inc.
1575 W. Hunt Highway
Florence, AZ 85132

RE: Request for Information
Class III Underground Injection Control Well Permit Application
Florence Copper, Inc.

Dear Mr. Copeland:

The United States Environmental Protection Agency, Region IX (EPA) is conducting a technical review of the March 25, 2011 Underground Injection Control (UIC) Permit application from Florence Copper, Inc. ("FC", previously known as Curis Resources (Arizona), Inc.), as modified by Dan Johnson's letter dated June 1, 2012 and supplemental submittals for the proposed Production Test Facility (PTF). We have reviewed the revised Class III UIC Permit application dated May 2014 (the UIC Permit application) in response to EPA's March 13, 2014 Request for Information (RFI). In order to continue our evaluation of your application materials, we are requesting additional information and clarifications as detailed in the enclosure.

Please address all items noted in the enclosure by submitting two copies of a complete revised application in hard copy and in electronic format.

Please submit the information requested in this letter to:

Attn: Nancy Rumrill
U.S. EPA Region IX, (WTR-9)
75 Hawthorne Street
San Francisco, CA 94105

If you have any questions regarding this letter, please contact me at 415-972-3417 or call Nancy Rumrill at 415-972-3293.

Sincerely,

David Albright
Manager, Ground Water Office

Enclosure
cc w/enc: Richard Mendolia, ADEQ (via e-mail)
Dan Johnson, VP, General Manager, Florence Copper, Inc. (via e-mail)

ENCLOSURE

July 11, 2014
Request for Information
Regarding the Florence Copper Class III UIC Permit Application

Attachment A, Area of Review

1. Attachments 14A, 14B, and 14C of the Temporary Aquifer Protection Permit (APP) application dated March 1, 2012 were added as requested to the UIC permit application in Exhibits A-1, A-2, and A-3, respectively. However, discussion of the basis for the groundwater flow model with reference to the content of those exhibits was not provided in the discussion portion of Attachment A. Please add a summary discussion of the basis for the groundwater flow model with reference to the content of Exhibits A-1, A-2, and A-3.

Attachment K, Injection Procedures

2. In the FC response to Comment 11 of EPA's March 13 RFI, a line for Injection Well Annular Space and a pressure transducer with descriptions of conditions, possible cause, response, and follow-up action were added to Table 1 of the Operations Plan in Exhibit K-2. The descriptions do not appear to apply to injection wells wherein a packer is installed above the well screen as depicted in Figure 2 of this Exhibit. Pressure anomalies in the tubing/casing annulus could be indicative of mechanical integrity failure. Please add to Table 1 descriptions of conditions, possible cause, response, and follow-up action applicable to that well configuration where the condition may be either a packer, tubing, casing, and/or other equipment failure.

Attachment L, Well Construction Procedures

3. The proposed long string casing construction design of the seven supplemental monitoring wells is described as 4-inch steel casing in Section L.2.6 on Page 5 and Figure M-5, Typical Supplemental Monitoring Well Construction Diagram. That is inconsistent with Figures 18-2, POC Well Design M55-UBF and 18-3, POC Well Design M56-LBF, in Exhibit P-2 which depict the long string casing material as 5-inch PVC. The POC terminology applied to those two wells is somewhat confusing as well, since EPA identifies them as supplemental monitoring wells and the application includes references to them as such in the text in Section M.2 of Attachment M, Well Construction Details. Also, there are inconsistencies in the depiction of the size 10-inch versus 14-inch diameter of steel conductor casing for the figures of the typical supplemental monitoring well construction and the proposed monitoring well designs in Attachment M. Please clarify and edit the application here and wherever necessary to achieve consistency in

well construction design and terminology, including Figures 18-2 and 18-3 in Attachment P, Monitoring Program.

Attachment M, Well Construction Details

4. M.2, Well Design: Please edit the first sentence to change M-4 to M-5. Refer to comments regarding Attachment L applicable to the inconsistency in well identification terminology and casing design with regard to Figure M-5 and the seven figures in Exhibit M-1. Please clarify the well label terminology and the use of PVC instead of steel casing in Figures 18-2 and 18-3 as discussed in the comment above.

5. Regarding the FC response to Comment 15 of EPA's March 13 RFI, Exhibit 9A was added to Attachment M, but the list of four drawings and Table 9A-1 listed in the Table of Contents were omitted. Those may be duplicative of Figures M-1 through M-4 and Exhibit K-2, but should be either included in Exhibit 9A or referenced to the figures in Attachment M and the Operations Plan in Exhibit K-2 of Attachment K. The CD containing Exhibit 9A was omitted, but was provided in the September 2012 response document. Please add the latest version of Exhibit 9A on a CD to the updated permit application.

Attachment N, Changes in Injected Fluid

6. Section N-2, Background: The text states that core holes were drilled in 2011 at the PTF well field site. Please identify those core holes and provide the drilling and coring records if not included in Attachment C of the application. Clarify if these core holes are included on the two maps in Attachment B and Table C-1 of core holes and wells located within the area of review (AOR). If not, please add the core holes to the table and the maps. Also, please state the current status of those core holes, whether abandoned or still open.

7. Figures 9-1 and 9-2 were provided as requested in Comment 17 of EPA's March 13 RFI letter. However, the map scale depicted in the map insert of the PTF well field of those figures indicates the well field scale size to be 300 by 300 feet with the observation wells instead of the 200 by 200 feet described as the PTF well field in parts of the application. Please clarify or modify the scale to the correct magnitude for the PTF well field.

8. Section N.3.1, Groundwater Model: The discussion on page 5 indicates changes to the length of the injection interval from 360 to 700 feet and a reduction in the hydrostatic pressure increase above ambient pressure to 8.2 psi, which equals 19 feet of head in unconfined conditions. Please clarify and discuss the basis for this change. Also, please clarify that the oxide zone and LBFU are unconfined at the contact between those zones.

9. Section N.5, Direction of Movement of Injected Fluid: Please refer to the Comment above regarding the core holes drilled in 2011 at the PTF well field site and also described in this section.

Attachment O, Plans for Well Failures (Contingency Plan)

10. Section O.1, Introduction: The discussion of well design in the sixth paragraph on page 2 requires clarification with regard to the term "conductor" casing and the use of steel casing in two of the supplemental monitoring wells, M55 and M56. Those wells are depicted with 5-inch PVC casing in Figures 18-2 and 18-3 in Attachment M, which is inconsistent with the discussion in this paragraph. Steel "conductor" casing is depicted in the Attachment M figures of all types of wells, not just in the injection and recovery wells as implied in this paragraph. Please refer to the Comments under the Attachment L and M headings above for a discussion of this and other inconsistencies, and clarify the applicable discussion in Section O.1.

Attachment P, Monitoring Program

11. Section P.3, Monitoring of Injection Pressure and Flow Rates: Please modify the discussion with regard to manifold pressure monitoring to clarify that injection pressures will also be monitored at the wellhead as presented in other sections of the application.

12. Section P.5.1, Groundwater Quality Monitoring: Figure 11-1 depicts M55 and M56 wells as supplemental monitoring wells, but Figures 18-2 and 18-3 labels them as POC wells (with new POC wells as M54). Please clarify for consistency. Also, please modify the text to clarify that establishing and monitoring Aquifer Quality Limits (AQLs) and Alert Levels (ALs) applies to the supplemental monitoring wells in addition to the POC wells. Also, please modify the text and Table P-4 to state that level 2 monitoring will occur semiannually, not biennially or annually. In addition, please label Table P-3 as Level 1 and Table P-4 as Level 2 parameters to be monitored.

13. Exhibit P-1, Alert Levels, Section 1.3.3, Existing ALs and AQLs: Please change annually to semiannually in the first sentence for consistency.

14. Figures 18-2 and 18-3, POC Well Design: Please clarify or modify the figures and labels to be consistent with the typical supplemental monitoring well diagram in Figure M-5 dated May 2014 if applicable to the M55 and M56 wells. Refer to comments above regarding inconsistencies in the description of well construction design of supplemental monitoring wells.

15. Exhibit P-2, Figure 11-1, Monitor Well Locations: Figure 11-1 includes a proposed supplemental monitor well MW-01, which is not included on other site plan and supplemental monitoring well diagrams in the application. Please clarify if this well is a

proposed supplemental monitoring well, and if it is, provide the well construction details and the monitoring program information related to the proposed well. Please modify the attachments of the application, where appropriate, to include discussion of this proposed well.

Attachment Q, Plugging and Abandonment Plan

16. Please provide typical Plugging and Abandonment Plans (EPA Form 7520-14) and schematic diagrams of the proposed Class III injection wells, recovery wells, observation wells, and monitoring wells associated with PTF operations. In addition, please provide the same for the existing BHP test wells authorized by the UIC Area Permit issued to BHP Copper in 1997.

17. Section Q.1.1, Applicability: Please provide a discussion of plans to plug and abandon the wells located in the BHP test well field authorized by the UIC Area Permit issued to BHP Copper in 1997 at the conclusion of PTF operations.

18. Also, please provide a discussion of plans to plug and abandon proposed wells, located within the AOR of the PTF, at the conclusion of PTF operations and/or post-closure monitoring, including recovery wells, observation wells, multi-level sampling wells, and supplemental monitoring wells.

19. Please clarify that the discussion of plugging and abandonment notifications, approvals, procedures, documentation, and reporting in attachment Q and exhibit Q-2, Closure and Post-Closure Plan, apply to all existing BHP test wells authorized in the UIC Area Permit issued to BHP Copper in 1997.

20. Exhibit Q-2. Closure and Post-Closure Plans

    Section 1.4, Closure Objective: For clarification, please add reference to ensure compliance with the requirements of the UIC Permit. Also, please add the following words after POC in the first sentence*: and supplemental monitoring wells.*

    Section 2.1.1: Groundwater Restoration Process: Please add to the end of item No. 4: *and Table P-4 of the attachments in the UIC permit.*

    Section 2.4, Closure Monitoring: Please add reference to the supplemental monitoring wells wherever reference is made to POC wells and add reference to the UIC Permit wherever reference is made to the Temporary APP in this section. Also, please add reference to Tables P-3 and P-4 of the UIC permit wherever reference is made to Tables 4.1.6 and 4.1.7 of the Temporary APP.

Section 2.5., Post-Closure Monitoring: Please add the following words after "POC" in this section: *and supplemental monitoring wells.* Also, please add reference to the UIC Permit wherever reference is made to the Temporary APP in the last paragraph in this section.

Section 3, Closure/Post-Closure Schedules: Please add reference to the U.S. EPA wherever reference is made to ADEQ in this section. Please state that a copy of the site investigation and closure plan submitted to ADEQ shall be provided to the U.S. EPA for review and approval before closure operations commence. Also, please add to the end of Subsections 3.1 and 3.2 that a copy of the closure notification and report, with documentation, will be submitted to the U.S. EPA within 30 days following completion of the closure plan.

Section 4, Closure/Post-Closure Cost Estimates: Please add the following words after "POC wells" in the third sentence: *and supplemental monitoring wells.* Also, please add the following after "APP" in the same sentence: *and the UIC Permit.* Please clarify the statement that "the M54-O and M54-LBF wells are not included as POC wells" since Attachment P and other references in the UIC permit application characterizes those wells as POC wells.

Attachment R, Necessary Resources

21. Section R.3.2, Post-Closure: Please clarify or modify the statements regarding one quarterly Level 2 sampling event to be conducted each year. Attachment P in the UIC permit application will specify semi-annual sampling for Level 2 events. Also, please add reference to the U.S. EPA wherever reference is made to ADEQ in this section.

22. Exhibit R-1, Closure and Post-Closure Cost Estimates: Please replace Table 5-2 in the permit application (revised 9/12/2012) with the updated version attached to the RFI response dated May 13, 2014.

23. Abandonment cost estimates for the wells located within the BHP test well field authorized by UIC Area Permit No. AZ396000001 issued to BHP in 1997, are not provided in Table 5-2. Those wells must be abandoned at the conclusion of PTF operations. Please provide cost estimates for abandonment of those wells.

Attachment S, Aquifer Exemption

24. Section S.1, Introduction: Please edit the discussion of the lateral extent of the aquifer exemption to be consistent with the original exempted area authorized by UIC Permit No. AZ396000001 in 1997. The lateral extent of the approved exempted area coincides with the AOR boundary at a distance of 500 feet from the larger property area perimeter as described in Exhibit S-1 rather than 500 feet from the PTF well field perimeter.

25. Section S.3, Required Criteria for Exempted Aquifers: Please state that the Pre-feasibility Study Report is provided on a CD in Exhibit S-2.

26. Section S.4, Proposed Aquifer Exemption: Please amend this section to indicate that the horizontal limits of the aquifer exemption area coincide with the original limits of the AOR described in Attachment A and B of the original UIC Permit issued to BHP in 1997. Also, please correct the reference to Figures D-2 and D-3 to Figures D-3 and D-4, respectively.